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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/994,299 | 11/26/2001 | Miron Abramovici | 487-012 | 5373 |
| 1009 | 7590 | 04/06/2004 | EXAMINER | |
| KING & SCHICKLI, PLLC 247 NORTH BROADWAY LEXINGTON, KY 40507 | | | TON, DAVID | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2133 | |

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,299

Applicant(s)

ABRAMOVICI ET AL.

Examiner

David Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/27/03 (Pre-Amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3,4,5,6</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The abstract is objected because it is over 150 words. A new abstract is required. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.
2. Claims 1-28 are presented for examination.
3. Claim 22 is objected to because of grammatical error on line 4, "said least" should be corrected to "said at least". Correction is required.

Double Patenting

4. The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and 8 may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 23 of U.S. patent no. 6,631,487.

6. As to independent claim 1 (group claims 1-8), it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the claim 1 of patent 6,631,487 by dropping the limitation of "reconfiguring", "further testing", "repeating", and "whereby" to broaden the claimed invention. This modification would have been obvious because a person having ordinary skill in the art would have been motivate to have broader claims.

7. As to independent claim 9 (group claims 9-26), it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the claim 1 of patent 6,631,487 by not including the limitation of "replace faulty resource in order to provide fault tolerance operation" to broaden the claimed invention. This modification would have been obvious because a person having ordinary skill in the art would have been motivate to have broader claims.

8. As to independent claim 17 (group claims 17-20), it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the claim 23 of patent 6,631,487 by rewording step (c) to "minimize a region of the group of resources which includes the faulty resource" to enhance the claimed invention. This

modification would have been obvious because a person having ordinary skill in the art would have been motivated to have broader claims.

Claim Rejections - 35 USC ' 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

10. Claims 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Abramovici et al. (Abramovici) of U.S. patent no. 6,202,182.

11. As to claim 21, Abramovici teaches the invention as claimed, including a method of identifying faulty programmable interconnect resources of a field programmable gate array [col. 1 line 62 – col. 2 line 8] comprising the steps of:

Configuring programmable logic blocks of said field programmable gate array to function as at least one test pattern generator and at least one output response analyzer, and programmable interconnect resources as at least two groups of wires under test [claim 1];

Testing said at least two groups of wires under test faults [claim 3];

Identifying at least one programmable interconnect resource having a fault detected during said testing step [claim 4].

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12. As to claim 22, Abramovici teaches the method for identifying faulty programmable interconnect resources set forth in claim 21 wherein the step of testing said at least two groups of wires under test for faults includes propagating test patterns along said at least two group of wire under test, comparing outputs of said at least two group of wires under test, and producing fault status data for said at least two groups of wires under test see claim 1].

Claim Rejections - 35 USC ' 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 23-28 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Abramovici et al. (Abramovici) of U.S. patent no. 6,202,182.

15. As to claims 23-28, Abramovici teaches the invention substantially as shown in claim 21 above. Abramovici teaches reconfiguring various segment of FPGA [Fig. 9A-9E] as much as total of 15 configuration [col. 10 lines 32-40] for complete testing of FPGA.

Abramovici does not explicitly teach minimizing a region which includes a fault.

However, Official Notice is taken that minimizing a region which includes a faults for further testing is well known in the art of isolating fault (example: fault dictionary diagnostic technique).

It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to enhance the teachings of Abramovici to include reconfiguring the FPGA in the direction of minimizing a region which includes a faults for isolating fault. This modification would have been obvious and a person having ordinary skill in the art would have been motivated to do so because it would provide the fault isolation.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Ton, whose telephone number is (703) 306-3043. The examiner can normally be reached Monday through Thursday from 6:30 AM to 4:00 PM and alternate Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady, can be reached at (703) 305-9595.

Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

A handwritten signature in cursive script that reads "David Ton".

DT
March 11, 2004

DAVID TON
PRIMARY EXAMINER